Joint Legislative Audit and Review Commission
of the Virginia General Assembly

Spending in State Government: Revenue Forecasting Process

Staff Briefing
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Introduction

Staff for this study:

Kirk Jonas, Deputy Director

Walt Smiley, Project Leader

Daniel Oney

Beth Silverman

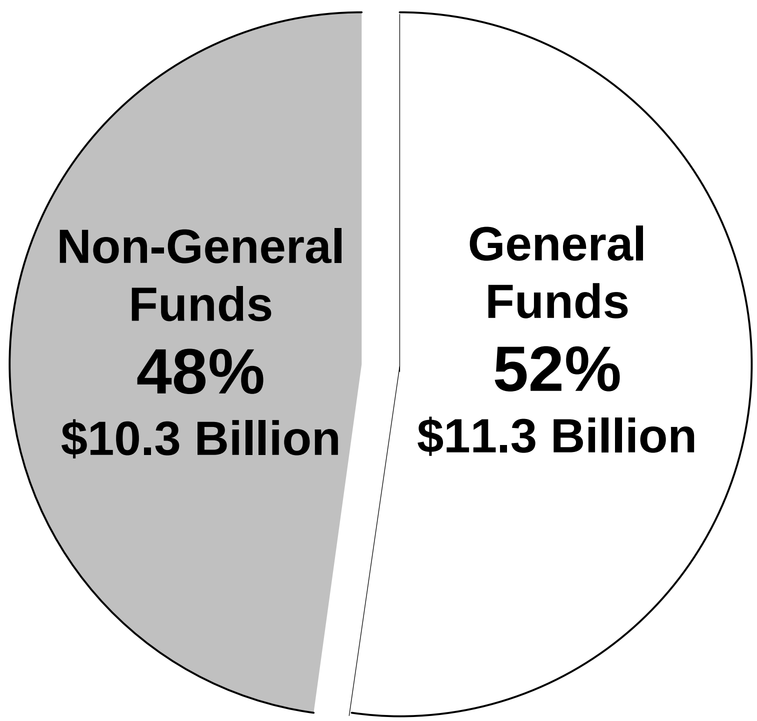
Study Mandate

- HJR 773 notes that the State budget is based on generally accurate revenue forecasts, but changing economic conditions may affect these forecasts

- Both HJR 773 and HB 2865 authorize the Commission to review related issues as appropriate

- In June a JLARC Subcommittee requested an overview of the Virginia revenue forecasting process through FY 2000

FY 2000 Appropriations, by Fund



Total: $21.6 Billion

Legislative Roles in Revenue Forecasting

- Limited legislative involvement
  - This role most resembles Virginia's process
- Technical assessment of executive forecast
- Independent legislative role
- Joint consensus role
- Independent consensus role

Revenue Forecasting Statutory Framework

- Statutes require the Governor annually to provide estimates of anticipated revenues for the subsequent six years, based on:
  - Forecasts of economic activity in the Commonwealth
  - Review of assumptions and methodology by an advisory board of economists (GABE)
  - Review of assumptions and general economic climate by Advisory Council on Revenue Estimates (GACRE)
- Appropriation Act authorizes the Governor to re-estimate General Fund revenue periodically

Forecasting Process

- Participants in advisory board of economists (GABE) include private sector economists and other staff

- Participating in Advisory Council on Revenue Estimates:
  - Governor chairs the Council
  - Members of the Virginia business community
  - House Speaker, Majority Leader; Senate President pro tem, Majority Leader; Chairmen: House Appropriations, House Finance, Senate Finance

Forecasting Process

- Process features a variety of participants
  - Secretary of Finance
  - Department of Taxation
  - DMV, ABC, Lottery, VEC, and other State agencies
  - Consultants

- Taxation develops a forecast of the Virginia economy as well as a forecast of total general fund revenues

Forecasting Process

- Statutory six-year forecasting requirement means that any one year's revenue will be forecast in at least each of the prior six years
  - The 1991 JLARC report on revenue forecasting found that FY 1990 revenue had been forecast 31 times, beginning in December 1982, continuing until a few months before the close of FY 1990
  - This was more than usual. The report noted that three of these estimates were "not normally part of the revenue forecasting process"
- The last forecast made, usually in March-May (only a quarter before the fiscal year ends), is considered the "official forecast" for historical and analytical purposes
  - Includes tax policy changes made by General Assembly
  - By this time in the fiscal year, actual revenue data is available for 8-9 months

Forecasting and Budget Timeframe

Timeframe	Revenue Forecast Step	Budget Process Step
Summer/Early Fall	"Draft" revenue forecast	Budget instructions distributed to State agencies. Agencies submit base budgets and budget requests
October	GABE review	
November	GACRE review	
December	Governor releases forecast (1st "official forecast")	Governor submits budget; General Assembly holds hearings
January		Budget Bill referred to committees
General Assembly Session	Mid-Session update of forecast	Legislative amendments to the Budget, passage of Budget Bill
March – May (Post-Session)	Forecast updated to include tax policy changes approved by the General Assembly (final "official forecast")	Governor takes action on Budget Bill

Forecast Accuracy

- While there is a need for accuracy in the revenue forecasts, Virginia's budget process provides for several adjustments to any one year's revenues
  - The General Assembly may amend and adjust any year's appropriations at least twice, including mid-year adjustments
- The Virginia Constitution calls for a balanced budget
- The revenue stabilization fund to some extent serves as a "forecast error" fund

Forecast Accuracy

- Findings reported in the 1991 JLARC report on revenue forecasting remain valid:
  - "There is always some difference between a forecast and collections."
  - "The further out a forecast is from the end of the fiscal year being predicted, the less accurate the forecast tends to be."
- In general, forecast errors run counter to the business cycle: in good times the models tend to under-estimate revenues and in bad times the models tend to over-estimate revenues

Forecast Accuracy

Key to the following slides

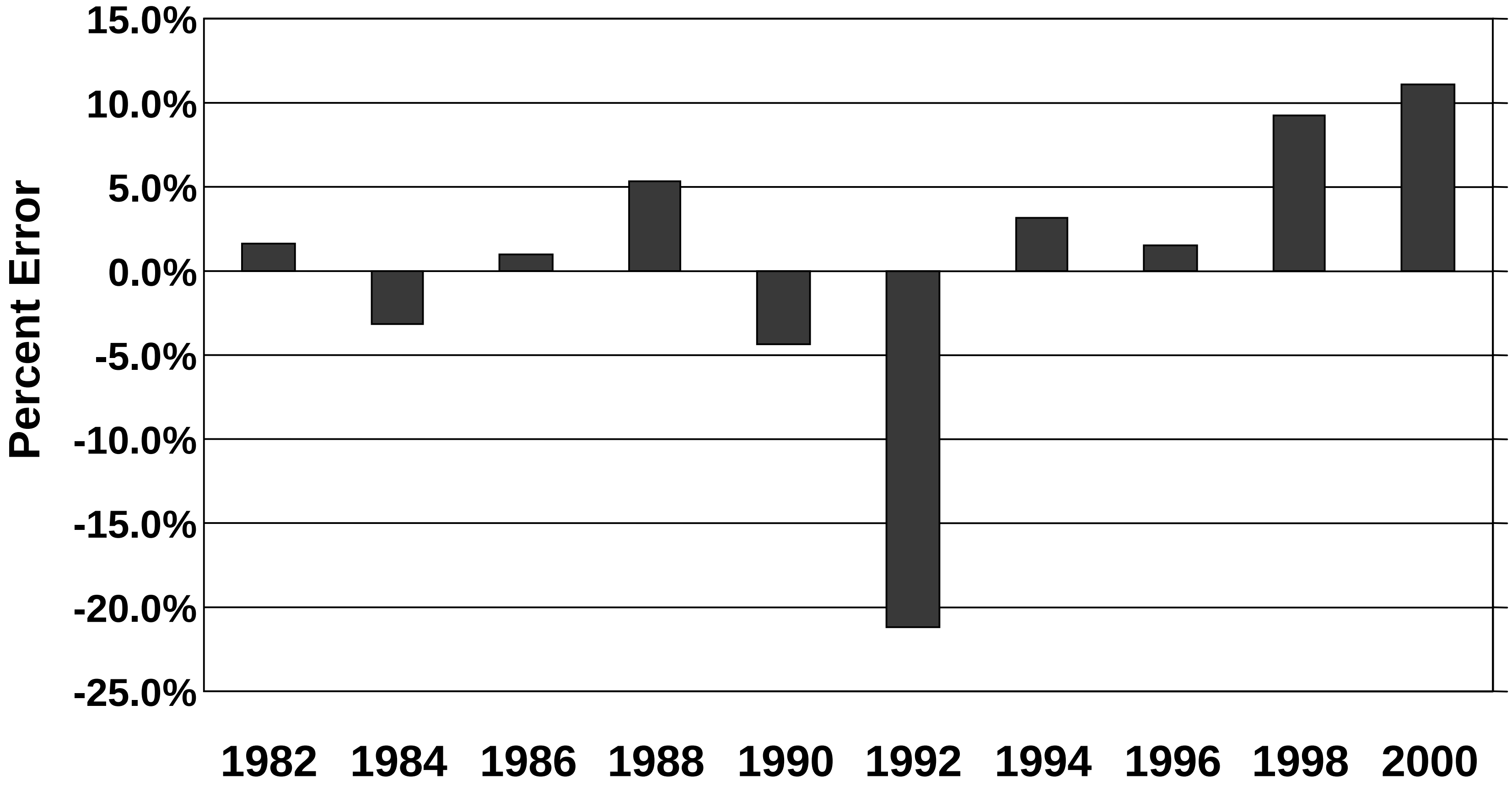
- <u>Two years out</u>: Accuracy of second year estimate in first Appropriation Act of a biennium
  - Example: How accurate was the FY 2000 forecast used by the 1998 General Assembly in adopting the 1998-2000 budget bill?
- <u>One year out</u>: Accuracy of first year estimate in first Appropriation Act of biennium, and second year estimate in second Appropriation Act of biennium
  - Example: How accurate was the FY 1999 forecast used by the 1998 General Assembly in adopting the 1998-2000 budget bill?
- <u>One quarter out</u>: Accuracy of revisions to current year
  - Example: How accurate was the FY 1998 forecast used by the 1998 General Assembly in adopting the "caboose" 1996-1998 budget bill?

Forecast Accuracy

Key to the following slides

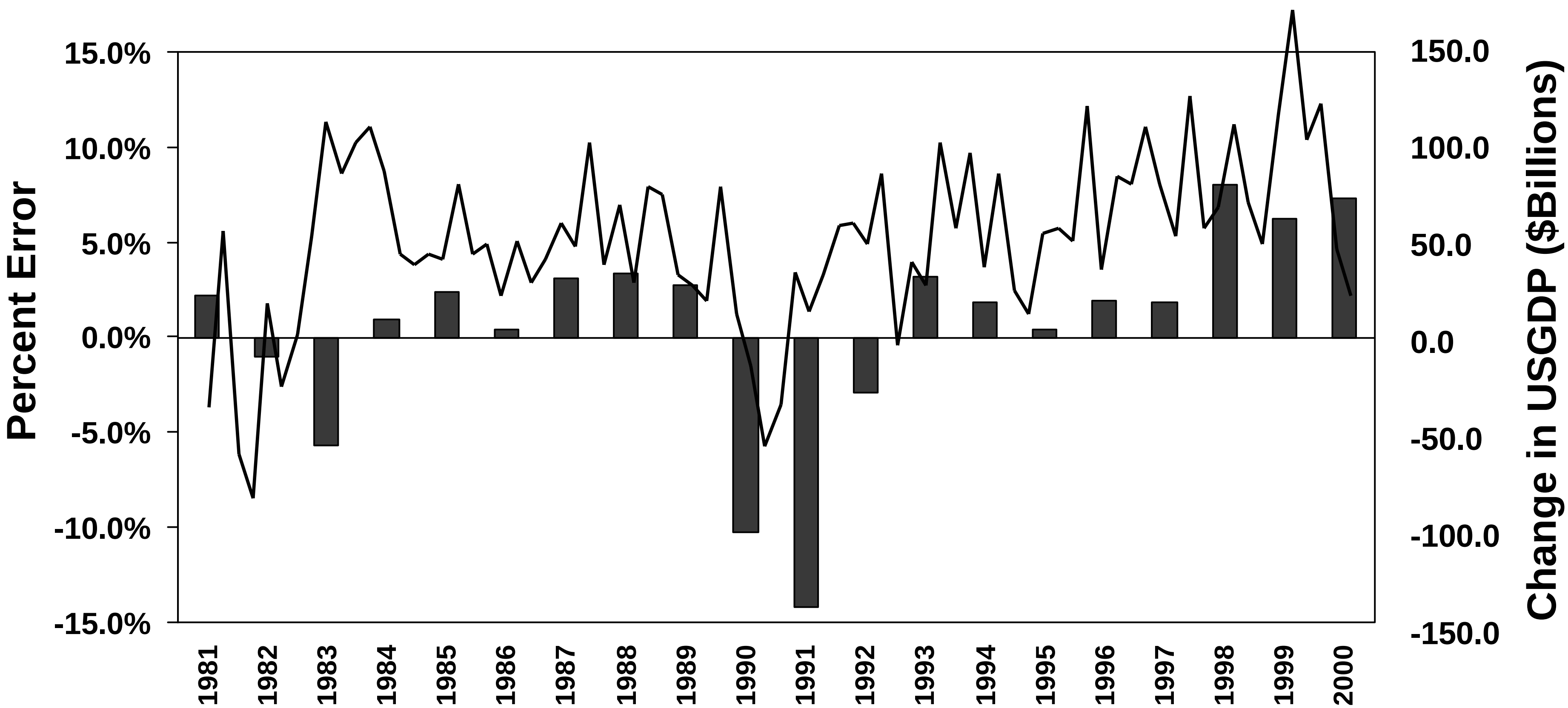
- **Negative numbers mean a shortfall: revenue was *less* than forecasted**
- **Positive numbers mean a surplus: revenue was *more* than forecasted**
- **Based on Appropriation Acts -- the numbers voted on by the General Assembly**

General Fund Forecast Accuracy
Two-Year-Out Forecast



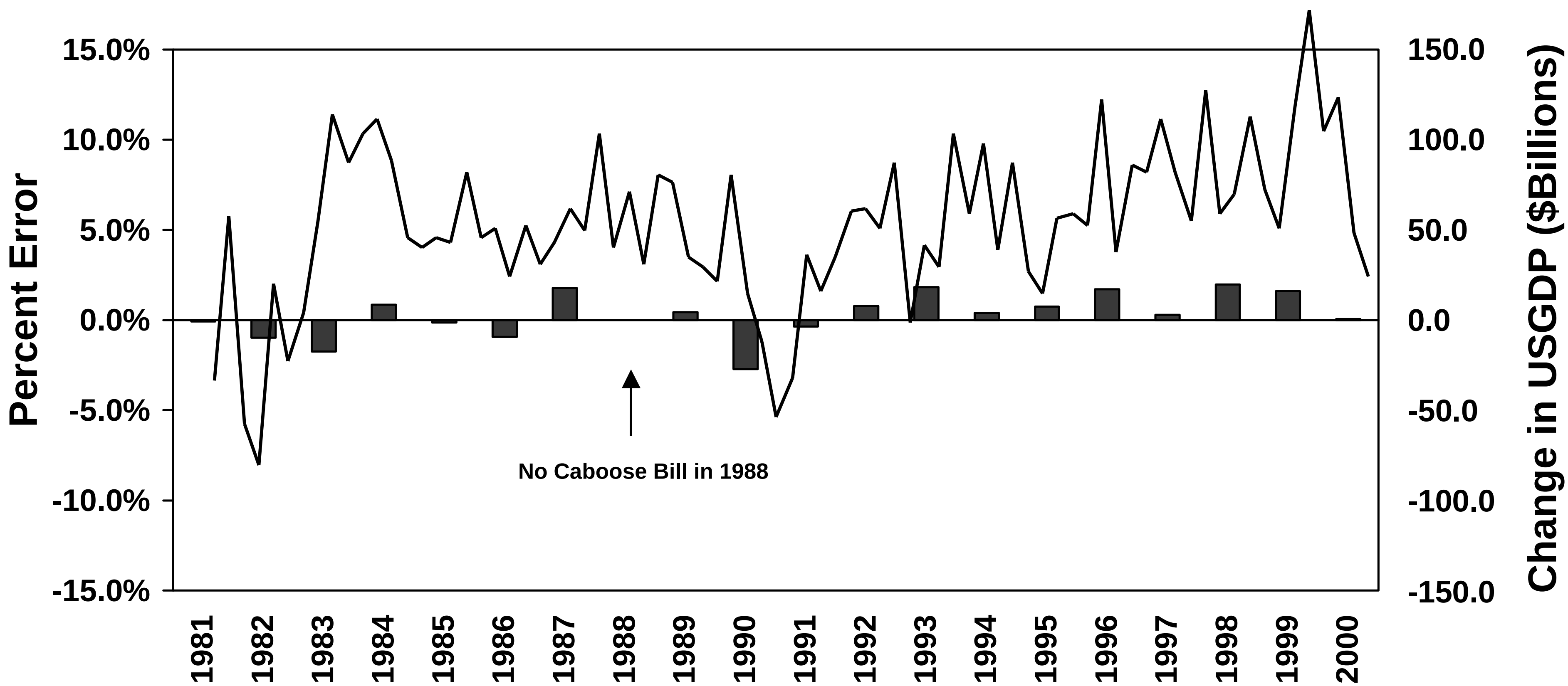
Average absolute error = 6.5%

General Fund Forecast Accuracy
One-Year-Out Forecast



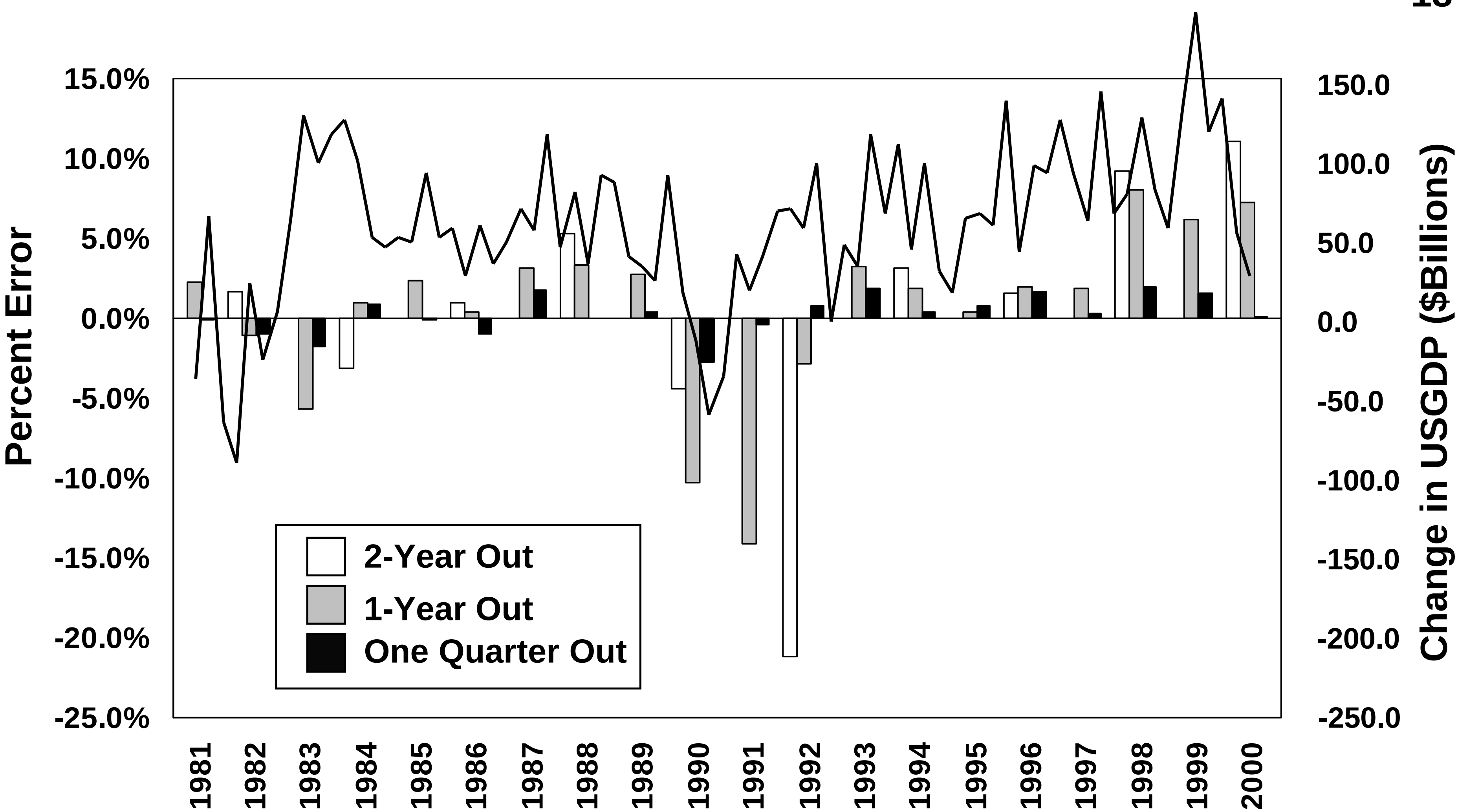
Average absolute error = 3.8%

General Fund Forecast Accuracy
One Quarter Out



Average absolute error = 1.0%

General Fund Forecast Accuracy



General Fund Forecast Accuracy
FY 1981 – FY 2000

	Average Absolute Error	Range of Error
Two years out	6.5%	-21.2% to +11.0%
One year out	3.8%	-14.2% to +8.0%
One quarter out	1.0%	-2.7% to +2.0%

Error in Taxation Department's Total General Fund Revenue Forecasts

FY 1991 – FY 2000 (in absolute percent)

FY	6 mos	18 mos	30 mos
2000	1.2%	7.6%	12.3%
1999	2.3%	7.8%	15.8%
1998	3.1%	8.9%	10.4%
1997	3.4%	4.6%	5.6%
1996	1.0%	2.1%	2.3%
1995	0.8%	1.0%	3.7%
1994	0.9%	2.3%	6.0%
1993	2.6%	5.9%	1.4%
1992	0.8%	3.6%	16.8%
1991	0.8%	11.8%	14.2%

Conclusions

- The Virginia revenue forecasting process is integrated into the budget cycle
- 2-year and 1-year forecasts have had higher error rates than the one quarter out forecasts
- In general, forecast errors run counter to the business cycle: in good times the models tend to under-estimate revenues and in bad times the models tend to over-estimate revenues
- The revenue stabilization fund to some extent serves as a “forecast error” fund